

## Silicon NPN Power Transistors

2N6702

## DESCRIPTION

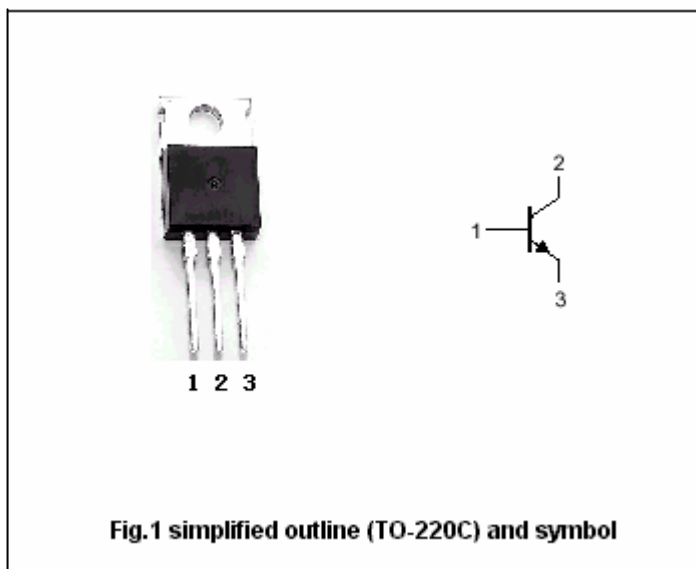
- With TO-220 package
- Fast switching speed
- Low collector saturation voltage

## APPLICATIONS

- Designed for converters, inverters, pulse-width-modulated regulators and a variety of power switching circuits.

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector; connected to mounting base
3	Emitter

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	140	V
$V_{CEO}$	Collector-emitter voltage	Open base	90	V
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		7	A
$I_{CM}$	Collector current-peak		10	A
$I_B$	Base current		6	A
$P_T$	Total power dissipation	$T_C=25^\circ\text{C}$	50	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	2.5	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =10mA ; I <sub>B</sub> =0	90			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			0.8	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =0.7A			1.5	V
V <sub>BE sat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			1.5	V
I <sub>CEV</sub>	Collector cut-off current	V <sub>CE</sub> =140V; V <sub>BE</sub> =1.5V T <sub>C</sub> =125 °C			0.1 1.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.2A ; V <sub>CE</sub> =2V	30			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =2V	20			
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0 ; f=0.1MHz, V <sub>CB</sub> =10V	50		150	pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V	50		200	MHz

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PACKAGE OUTLINE

